



SAN LUIS OBISPO COUNTY  
DEPARTMENT OF PLANNING AND BUILDING  
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**DRAFT**  
**County of San Luis Obispo**  
**Guidelines for Revegetation/Restoration Plans**  
**Revised June 20, 2006**

**I. Applicability**

These guidelines are for biologists preparing Revegetation/Restoration Plans (RRPs) for the County of San Luis Obispo Planning and Building Department. These guidelines do not supersede existing Federal or State laws or regulations.

**II. Purpose**

The purpose of these Revegetation/Restoration Guidelines is to assist applicants in understanding the County requirements for RRPs, to improve the overall success of RRP proposals, to improve the predictability of RRPs, and to provide for more consistency in the contents of RRPs. The guidelines are intended to be used by applicants, agents, and consultants as a guide for the development of RRPs as required to mitigate for adverse impacts to sensitive botanical resources. These guidelines may not be suitable in every situation, and do not guarantee the success of a revegetation/restoration project. These guidelines are intended to provide background information that may be assimilated in RRPs; however, the actual details required in an RRP needed for a particular project may vary, depending on the site conditions, project scope, and sensitive resources that require mitigation.

**III. Definitions and General Information**

**Revegetation/Restoration Plan** is defined as a plan to mitigate or compensate for the loss of sensitive botanical resources resulting from discretionary project activities and monitor over time, the success of the revegetation/restoration plan.

**Performance standards** are specific, measurable outcomes that will be used to track progress towards achieving the approved success criteria. The development of performance standards is a required element in an RRP. Applicants and consultants shall coordinate with the County early in the RRP development to develop performance standards and they shall be consistent with the intended mitigation goals and objectives.

**Replacement Ratio:** RRPs should be developed to replace impacted sensitive resources at a minimum 1:1 replacement ratio (i.e. no net loss). This replacement ratio may be increased depending on the type of resource, the percentage of the total resource that is lost due to the project activities, the likelihood of success, timing, location, and type of proposed mitigation.

**Approval of RRPs:** RRPs should include a discussion of how on-site impacts were avoided

and minimized and how the proposed RRP will compensate for the remaining unavoidable impacts. A preliminary RRP shall be submitted to the Environmental Coordinator's Office of the County Department of Planning and Building for review. The County shall review the preliminary RRP to ensure that the RRP appropriately compensates for the unavoidable impacts. The final RRP will be completed, incorporating the County's comments.

**Coordination:** Coordination meetings are encouraged to facilitate the evaluation of potentially complex or controversial projects and discuss revegetation/restoration requirements and opportunities. In addition, coordination meetings between contractors, environmental consultants, and the project manager are encouraged for larger, more complex, and/or higher risk revegetation/restoration projects to ensure proper compliance.

#### **IV. Revegetation/Restoration Checklist (Appendix A).**

Appendix A is a checklist intended to serve as a guide for applicants preparing RRP's to mitigate for impacts from discretionary projects. The checklist identifies the items generally required when developing compensatory RRP's. Not every RRP will require each item on the checklist; however, applicants should address all applicable items and indicate, when appropriate, why a particular item was not included.

#### **V. Contents of Revegetation/Restoration Plan**

Refer to Appendix A for a checklist of RRP's. The checklist should be used prior to submittal of RRP's to ensure that all required items are included.

##### **A. Executive Summary**

1. Impacted versus created vegetation and habitat type
2. Project goals and objectives
3. Summary schedule

##### **B. Baseline Information for Impact site, proposed revegetation/restoration sites and reference sites (if applicable)**

1. Description of discretionary project that requires mitigation
  - Describe the project type (e.g. parcel map, tract map, grading permit, etc.),
  - Describe project phases
  - Describe project schedule
  - Include total area of disturbance
  - Include conditions of approval as they relate to the RRP
2. Location

For the impact site, revegetation/restoration site, and reference site (if applicable), describe the following characteristics:

- Assessor's parcel number (i.e. APN)

- Address
  - Location description
  - Township and range coordinates and/or Global Positioning System (GPS) coordinates.
  - Include maps (e.g., vicinity map, site map showing project plans, USGS map, zoning or planning maps, etc.)
  - Aerial and on-site photos
3. Environmental setting of impact, revegetation/restoration and reference sites
- Climate/aspect
  - Configuration and topography
  - Soils testing and soils description
  - Watershed
  - Existing hydrology (surface and groundwater)
  - Quantify wetland resources (acreage) or stream resources (linear feet) by type(s).
  - Water quality
  - Existing vegetation/habitats (descriptions and maps)
  - List of species on site, indicating dominant species
  - Plant species characteristics such as densities, general age and health, and native/nonnative/invasive status
  - Percent vegetative cover; community structure (canopy stratification)
  - Existing wildlife usage (indicate possible threatened and endangered species habitat)
  - Map showing location of plant communities
  - For revegetation/restoration sites, also describe level of existing disturbance, exotic invasive species presence, and site constraints (e.g. zoning, current uses, surrounding uses, etc.)
4. Land Use and Ownership
- Current owner(s)
  - Historic and current land use; note prior converted cropland
  - Surrounding land use
5. Parties responsible for project
6. Required permits from non-county agencies.
- Describe permits required from other agencies such as the Department of Fish and Game, U.S. Fish and Wildlife Service, Army Corps of Engineers, etc., and when permits will be obtained.
  - If cultural or historical resources will be impacted, discuss whether a letter is needed by the State Historic Preservation Office. Explain how and when this will be accomplished.

- C. **Revegetation/Restoration Goals and Objectives**
- Describe the resource type and functions that will be impacted at the proposed impact site and the resource and functions for which the revegetation/restoration project is intended to compensate.
  - Include both temporary and permanent impacts
  - Include attainable and measurable goals and objectives to achieve through implementation of the RRP (e.g. goals pertaining to revegetation/restoration, drainage and hydrology, slope stability, erosion and sedimentation, sensitive target species and habitats)
  - Proposed compensation ratios
  - Relationship to mitigation measures required for project
  - Describe time frame for accomplishing goals and objectives
- D. **Revegetation/Restoration Site Selection and Justification**
- If the revegetation/restoration site is located off-site from the impact site, include the following information:
- Description of site selection practicability in terms of cost, existing technology, and logistics
  - Description of likelihood of success, future adjacent land uses and compatibility (show on map or aerial photo)
  - Explain why on-site or in-kind options are not practicable or environmentally preferable.
  - Existing and proposed revegetation/restoration site deed restrictions, easements and rights-of-way. Demonstrate how the existence of any such restriction will be addressed, particularly in the context of incompatible uses.
  - Explanation of how the design is sustainable and self-maintaining
- E. **Revegetation/Restoration Work Plan**
- Work plan should include specific details so that work can be accomplished by secondary party, if necessary. Methodologies should be repeatable.
  - Responsible party(ties)
  - Maps marking boundaries of proposed revegetation/restoration sites, preparation and/or treatments. Include GPS coordinates.
  - Revegetation/restoration schedule for all phases (expected start and end dates of each phase, expected date for finished plan)
  - Protections to be implemented for extant vegetation, hydrologic features, and landforms
  - Description of revegetation/restoration methods (e.g., equipment to be used)
  - Describe land shaping, grading, drainage. Include planned elevation, slopes, hydrology, soils, vegetation, plant species, etc.
  - Include grading plan, if applicable
  - Slope protection, erosion control, and soil compaction control measures
  - Planned soils/substrate/growth media
    - Testing

- Source of soils (e.g., salvaging existing soil, stockpiling, replacing or importing)
- Soil characteristics (organic content, structure, texture, permeability)
- Soil amendments (e.g., organic material or topsoil)
- Mulching
- Weed eradication from soil source
- Plant materials
  - Species selection
  - Stock type (bare root, potted, seed)
  - Plant age(s)/size(s)
  - Quantities of each species and stock type
  - Propagule source (e.g. salvaged from impact site, local source, seed bank, commercial)
  - Plant/seed handling
  - Planting/seeding rates, densities, spacing, percent cover
  - Planting/seeding methods (details)
  - Planting/seeding locations (include description and show locations on map)
- Expected natural regeneration from existing seed bank, plantings, and natural recruitment
- Plant protection (e.g. Chan can, screens, Weedstop)
- Irrigation installation (frequency, duration, source and water quality)
- Planned habitat features (identify large woody debris, rock mounds, etc. on map)
- Other planned features, such as interpretive signs, trails, fence(s)
- Planned buffer (identify on map)
  - Evaluation of the buffer's expected contribution to resource functions
  - Physical characteristics (location, dimensions, native plant composition, spatial and vertical structure etc.

#### F. Site Protection and Maintenance

- Describe long-term legal protection instrument (e.g. conservation easement, deed restriction, transfer of title).
- Party(ies) responsible for site protections and their role (e.g. property owner, easement owner, maintenance implementation). If more than one party, identify primary party.
- Schedule of maintenance activities
- Maintenance plan
  - Measures to control predation/grazing
  - Invasive species control plan (plant and animal)
  - Fertilizing
  - Irrigation/supplemental watering
  - Replanting
  - Control of anthropogenic effects (e.g. fencing, signing,

replacement planting, structure maintenance/repair, etc.)

- Evaluation and reporting of maintenance activities

G. Performance Standards

- Identify clear, precise, quantifiable parameters that can be used to evaluate the status of the RRP in attaining the desired objectives (objectives may include measures such as number of individual plants, percent vegetative cover, percent cover of exotic/invasive species, etc).
- Performance standards must address project goals.
- Describe how performance standards were derived (e.g. industry standards, local ordinances, developed specific for this project).
- Describe basis for standards (e.g. pilot project, research, monitored results of previously implemented project)
- Describe how performance standards will be used to verify that objectives identified in section V.C. have been attained.
- Describe when performance standards will be evaluated.
- Set target values or ranges for the parameters identified.
- Describe standards for each project element such as species, community, structure, site, or function.
  - Describe qualitative standards (e.g. photo reference points, visual/aesthetic quality)
  - Describe quantitative standards (e.g. plant cover, plant density, reproduction, species-richness for plants and animals, ecosystem functions, erosion, exotic species)
  - Reference sites or other controls

H. Monitoring Plan

- Include site plans of RRP work efforts with elevations and acreage. Explanations of any deviations from the approved RRP plan shall be provided. Plans of completed project should also indicate the actual plantings.
- Party(ies) responsible for monitoring. If more than one, identify primary party
- Monitoring schedule
- Description of monitoring methods: data to be collected and reported, how often and for what duration. Identify proposed monitoring stations, including transect locations on map. Include specific details so that monitoring can be repeated by secondary party, if necessary.
- Discussion of methods for analyzing results
- Identify locations of photo stations and transects on map
- Photographs from stations
- Reporting monitoring data and assessing RRP status
  - Report format
  - Report contents
  - Frequency/schedule of reports

- I. Adaptive Management Plan
- Describe party(ies) responsible for adaptive management and their responsibilities
  - Identification of potential challenges that pose a risk to project success (e.g., flooding, drought, invasive species, seriously degraded site, extensively developed landscape). Discuss how the design accommodates these challenges.
  - Discussion of potential remedial measures in the event mitigation does not meet performance standards in a timely manner
  - Discussion of how and when adaptive management practices will be applied to the plan
  - Identify party(ies) to consult when goals and objectives are not attained.
- J. Budget
- Include estimated costs associated with
    - Planning RRP
    - Implementation of RRP
    - Maintenance
    - Monitoring
    - Contingencies
- K. Financial Assurances
- For each of the following, identify party(ies) responsible to establish and manage the financial assurance, the specific type of financial instrument, the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions:
    - Implementation
    - Maintenance
    - Monitoring
    - Adaptive Management
    - Project success
  - Describe types of assurances (e.g., performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, etc.).
  - Payees/designated appropriate use of funds
  - Schedule by which financial assurance will be reviewed and adjusted to reflect current economic factors
- L. Data sheets
- Include copies of data sheets for baseline data
  - Include copies of monitoring forms
  - Monitoring results

M. Monitoring Reports

- Include part(ies) responsible for submission of monitoring reports.
- Include schedule for submission of quarterly and annual monitoring reports.
- Include details about contents of monitoring reports.



**Appendix A**  
**Revegetation/Restoration Plan Checklist**  
**Revised June 20, 2006**

**Executive Summary**

- ☐ Impacted resources vs. resources proposed
- ☐ Project goals
- ☐ Schedule Summary

**Baseline Information for Impact Site, Proposed Revegetation/Restoration Sites, and Reference Sites**

- ☐ Description of discretionary project that requires mitigation (type, phases, schedule, quantify area of disturbance). Include proposed project site plan, topographic maps, and aerial photographs
- ☐ Location of impact site, revegetation/restoration site, and reference sites (location description and site plan, APN, GPS coordinates, maps, photos, etc.)
- ☐ Provide data on environmental setting of sites (climate, topography, soils, watershed, hydrology, wetlands, water quality, plant communities, vegetation, habitat, wildlife species, level of existing disturbance, etc.)
- ☐ Describe historic and existing land uses and resources impacted
- ☐ Describe surrounding land use
- ☐ Land ownership
- ☐ Responsible parties
- ☐ Required permits from non-county agencies

**Revegetation/Restoration Goals and Objectives**

- ☐ Describe functions/resources lost at impact site
- ☐ Describe functions/resources to be gained at revegetation/restoration site
- ☐ Include attainable and measurable goals and objectives
- ☐ Relationship to mitigation measures required for project
- ☐ Proposed mitigation ratios
- ☐ Time frame for accomplishing goals and objectives

**Mitigation Site Selection and Justification (if located off-site from impact site)**

- ☐ Describe process of selecting proposed site
- ☐ Likelihood of success, future land use compatibility, etc.
- ☐ Explain reason for selecting off-site mitigation (if applicable)
- ☐ Describe site restrictions

**Mitigation Work Plan**

- ☐ Include specific details of all aspects of revegetation/restoration work
- ☐ Responsible parties
- ☐ Maps showing boundaries of revegetation/restoration sites
- ☐ Schedule
- ☐ Describe land shaping, grading, drainage
- ☐ Describe planned elevation, slopes, hydrology, soils, buffers, vegetation, plant and

wildlife species, habitat features, signs, etc.

- ☐ Describe slope protection, erosion control, and soil compaction measures
- ☐ Planned soils information
- ☐ Plant materials information
- ☐ Plant protection
- ☐ Irrigation installation
- ☐ Habitat features
- ☐ Other features
- ☐ Buffers

### **Site Protection and Maintenance**

- ☐ Provide evidence of long-term protective measures
- ☐ List parties and responsibilities
- ☐ Maintenance schedule
- ☐ Predation/grazing control plan
- ☐ Invasive species control plan
- ☐ Fertilizing
- ☐ Irrigation/supplemental watering
- ☐ Replanting
- ☐ Control of anthropogenic effects
- ☐ Evaluation and reporting maintenance activities

### **Performance Standards**

- ☐ Identify precise, measurable parameters to determine success of revegetation/restoration plan. Performance standards must address project goals.
- ☐ Describe performance standards for each project element
- ☐ Describe how performance standards were derived
- ☐ Identify how and when performance standards will be evaluated

### **Monitoring Plan**

- ☐ Include site plans of RRP work efforts
- ☐ Identify party(ies) and responsibilities
- ☐ Monitoring schedule
- ☐ Describe monitoring methods. Include specific details so that monitoring data collection can be repeated by secondary party, if necessary
- ☐ Identify photo station and transect locations
- ☐ Reporting monitoring data and assessing RRP status

### **Adaptive Management Plan**

- ☐ Identify party(ies) and responsibilities
- ☐ Identify potential challenges (e.g. flooding, drought, invasive species, etc.)
- ☐ Remedial measures to implement in the event that performance standards are not met
- ☐ Identify when and how success criteria will be evaluated
- ☐ Identify how and when adaptive management practices will be applied to the plan
- ☐ Identify party(ies) to consult when goals and objectives are not attained.

**Budget**

- ☐ Include estimated costs for RRP planning, implementation, maintenance, monitoring, and contingencies

**Financial Assurances**

- ☐ Identify party(ies) responsible for assurances
- ☐ Specify type of assurances (e.g. performance bonds, irrevocable trusts, escrow accounts, etc.)
- ☐ Schedule for reviewing financial assurances

**Data Sheets**

- ☐ Include copies of data sheets for baseline data
- ☐ Copies of monitoring forms
- ☐ Monitoring results

**Monitoring Reports**

- ☐ Include party(ies) responsible for submission of monitoring reports
- ☐ Include schedule for submission of quarterly and annual monitoring reports
- ☐ Include details about contents of monitoring reports